

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum
Internationales Büro



24 FFR 2005



(43) Internationales Veröffentlichungsdatum
1. April 2004 (01.04.2004)

PCT

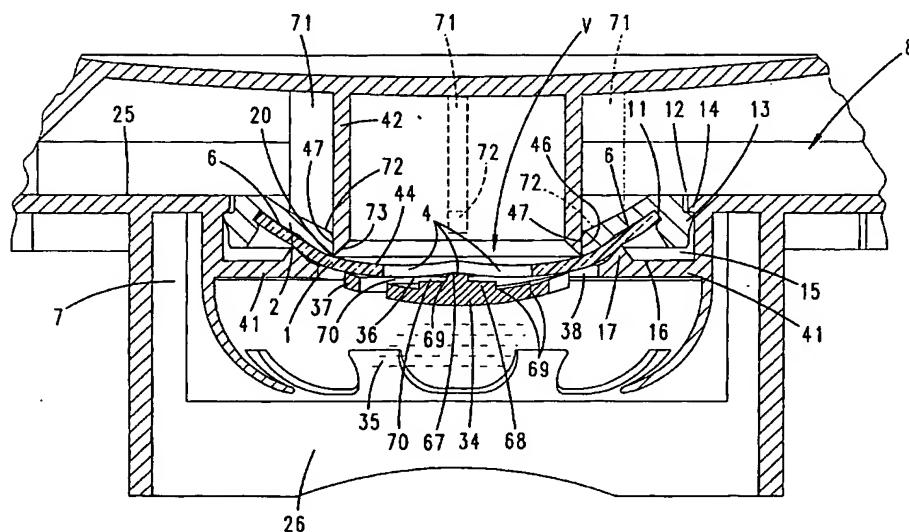
(10) Internationale Veröffentlichungsnummer
WO 2004/026721 A3

- (51) Internationale Patentklassifikation⁷: B65D 47/20,
47/08, B29C 43/18, 69/02
- (21) Internationales Aktenzeichen: PCT/EP2003/010253
- (22) Internationales Anmeldedatum:
16. September 2003 (16.09.2003)
- (25) Einreichungssprache: Deutsch
- (26) Veröffentlichungssprache: Deutsch
- (30) Angaben zur Priorität:
102 43 067.5 16. September 2002 (16.09.2002) DE
103 33 638.9 24. Juli 2003 (24.07.2003) DE
103 42 406.7 12. September 2003 (12.09.2003) DE
- (71) Anmelder (*für alle Bestimmungsstaaten mit Ausnahme von US*): ALPLA-WERKE ALWIN LEHNER GMBH & CO. KG [AT/AT]; Allmendstrasse 81, A-6971 Hard (AT).
- (72) Erfinder; und
- (75) Erfinder/Anmelder (*nur für US*): SUFFA, Udo [DE/DE]; Oberlinder Strasse 59, 96524 Gefell/OT Rottmar (DE).
- (74) Anwälte: MÜLLER, Enno usw.; Rieder & Partner, Corneliusstrasse 45, 42329 Wuppertal (DE).
- (81) Bestimmungsstaaten (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Bestimmungsstaaten (*regional*): ARIPO Patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), eurasisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), europäisches Patent (AT, BE, BG, CH, CY, CZ, DE,

[Fortsetzung auf der nächsten Seite]

(54) Title: SELF-CLOSING MEMBRANE VALVE

(54) Bezeichnung: SELBSTSCHLIESSENDES MEMBRAN-VENTIL



WO 2004/026721 A3

(57) Abstract: The invention relates to a self-closing membrane valve (V) comprising a slit membrane (1) and a cap-shaped holding element (2) which is associated with a receiving region (6) of the membrane (1). The aim of the invention is to provide a ready-to-use, pre-mountable membrane valve. To this end, the holding element (2) is connected to the membrane (1) in a positively locking manner or in a material fit, and is formed inside a closing element (7) in order to hold in an overlapping or locking manner on the peripheral outer edge side.

[Fortsetzung auf der nächsten Seite]

BEST AVAILABLE COPY



DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
PT, RO, SE, SI, SK, TR), OAPI Patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Veröffentlicht:

— mit internationalem Recherchenbericht

(88) Veröffentlichungsdatum des internationalen
Recherchenberichts:

7. Oktober 2004

Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

(57) Zusammenfassung: Die Erfindung bezieht sich auf ein selbstschliessendes Membran-Ventil (V) mit einer geschlitzten Membran (1) und einem zugeordnet zu einem Aufnahmebereich (6) der Membran (1) kalottenförmig gestalteten Halterungsteil (2), und schlägt zur Erzielung eines einsatzfertig vormontierbaren Membran-Ventils vor, dass das Halterungsteil (2) mit der Membran (1) form- oder stoffschlüssig verbunden ist und zur umfangs-aussenrandseitigen Übergriffhalterung oder Rasthalterung in einem Verschlussteil (7) ausgebildet ist.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 03/10253

A. CLASSIFICATION OF SUBJECT MATTER				
IPC 7	B65D47/20	B65D47/08	B29C43/18	B29C69/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65D B29C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 03/091124 A (ALPLA WERKE ALWIN LEHNER GMBH; SUFFA UDO (DE)) 6 November 2003 (2003-11-06) the whole document & DE 102 18 363 A 13 November 2003 (2003-11-13) cited in the application	1-8,10, 11, 13-17, 21-24
X	US 6 367 668 B1 (SCHWANENBERG SIGURD) 9 April 2002 (2002-04-09) figures 10,13	16
Y	-----	21
A	-----	1
Y	EP 0 495 435 A (PITTWAY CORP) 22 July 1992 (1992-07-22) figures 2,4	21
A	-----	25-32
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "D" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "Z" document member of the same patent family

Date of the actual completion of the international search

9 June 2004

Date of mailing of the International search report

24.06.2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+31-70) 340-3016

Authorized officer

Bridault, A

Form PCTISA/210 (second sheet) (January 2004)

BEST AVAILABLE COPY

INTERNATIONAL SEARCH REPORT

International Application No PCT/EP 03/10253

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category ^a	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 927 567 A (FILLMORE WILLIAM E) 27 July 1999 (1999-07-27)	33-35
A	column 2, line 61 - column 3, line 20; figures 11-13 -----	36
Y	US 6 371 340 B1 (RAMSEY CHRISTOPHER PAUL ET AL) 16 April 2002 (2002-04-16) column 4, line 29 - line 32 -----	33-35
Y	EP 0 920 967 A (BECTON DICKINSON CO) 9 June 1999 (1999-06-09) paragraph [0019] -----	35
A	WO 98/38102 A (WEENER PLASTIK GMBH CO KG; HACKMANN BERND (DE); SCHORNER HORST (DE) 3 September 1998 (1998-09-03) page 24, line 27 - page 25, line 29; figures 1,5 -----	1,16,33, 36
A	GB 2 330 577 A (CODA PLASTICS LTD) 28 April 1999 (1999-04-28) page 6, line 9 - line 22 page 7, line 20 - line 24 page 9, line 25 - line 34; figures 1,8 -----	1,16
A	EP 0 442 379 A (GUALA SPA) 21 August 1991 (1991-08-21) column 4, line 18 - column 5, line 14; figures 7-11 -----	33

INTERNATIONAL SEARCH REPORTInternational application No.
PCT/EP 03/10253**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 8.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 03/10253

Box II

The International Searching Authority has determined that this international application contains multiple (groups of) inventions, as follows:

1. Claims 1-32

Self-closing membrane valve comprising a holder part which can positively engage in a locking part.

2. Claims 33 to 35

Method for producing a self-closing membrane valve, in which the membrane is formed on a holder part.

3. Claim 36

Self-closing membrane valve, characterised by the connecting of the membrane to the holder part.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 03/10253

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 03091124	A	06-11-2003	DE WO	10218363 A1 03091124 A2	13-11-2003 06-11-2003
DE 10218363	A	13-11-2003	DE WO	10218363 A1 03091124 A2	13-11-2003 06-11-2003
US 6367668	B1	09-04-2002	DE AT AU DE DE WO EP TW	19640629 A1 190579 T 4864497 A 69701474 D1 69701474 T2 9814386 A1 0929464 A1 434170 B	02-04-1998 15-04-2000 24-04-1998 20-04-2000 02-11-2000 09-04-1998 21-07-1999 16-05-2001
EP 0495435	A	22-07-1992	US AU AU CA CA DE DE DE DE EP ES MX	5115950 A 642800 B2 1019492 A 2058897 A1 2433162 A1 69201059 D1 69201059 T2 495435 T1 0495435 A1 2066492 T3 9200130 A1	26-05-1992 28-10-1993 16-07-1992 15-07-1992 15-07-1992 16-02-1995 11-05-1995 14-01-1993 22-07-1992 01-03-1995 01-07-1992
US 5927567	A	27-07-1999	CA DE DE EP ES US US	2220626 A1 69718876 D1 69718876 T2 0841258 A2 2192250 T3 6673295 B1 2004036195 A1	12-05-1998 13-03-2003 30-10-2003 13-05-1998 01-10-2003 06-01-2004 26-02-2004
US 6371340	B1	16-04-2002	AT AU BR CN DE DE EP WO	220027 T 1066000 A 9915377 A 1113026 B 69902052 D1 69902052 T2 1131252 A1 0029296 A1	15-07-2002 05-06-2000 31-07-2001 02-07-2003 08-08-2002 13-02-2003 12-09-2001 25-05-2000
EP 0920967	A	09-06-1999	US CA DE DE EP JP	5961911 A 2255078 A1 69803825 D1 69803825 T2 0920967 A1 11226978 A	05-10-1999 05-06-1999 21-03-2002 02-10-2002 09-06-1999 24-08-1999
WO 9838102	A	03-09-1998	DE AT AT AU DE DE WO	29703275 U1 256604 T 229458 T 6725198 A 59806624 D1 59810488 D1 9838102 A1	25-06-1998 15-01-2004 15-12-2002 18-09-1998 23-01-2003 29-01-2004 03-09-1998

INTERNATIONAL SEARCH REPORT

Information on patent family members

				International Application No	
				PCT/EP 03/10253	
Patent document cited in search report	Publication date	Patent family member(s)		Publication date	
WO 9838102	A	EP EP ES	1078863 A1 0963323 A1 2189147 T3	28-02-2001 15-12-1999 01-07-2003	
GB 2330577	A	28-04-1999	NONE		
EP 0442379	A	21-08-1991	IT AT DE DE EP ES	1238621 B 116928 T 69106541 D1 69106541 T2 0442379 A2 2067775 T3	18-08-1993 15-01-1995 23-02-1995 11-05-1995 21-08-1991 01-04-1995